

# Appendix I

Estimated Costs of a Publicly Owned and  
Operated Intermodal Facility



# APPENDIX I

## Estimated Costs of a Publicly Owned and Operated Intermodal Facility

The business case for a County owned intermodal facility uses a estimate of \$2.40 per ton for the total costs of a County intermodal facility. This estimate is developed from an analysis of capital and operating cost information from HDR Engineering, Inc. The estimate uses a present value methodology to determine a levelized cost per ton that incorporates front end capital costs and operating expenditures over an assumed 20 year facility operating life. Capital and operating costs each account for about half of total costs.

### Capital Facility Costs

With assistance from HDR Engineering, Inc., the solid waste division developed an estimated capital cost of about \$25 million for a non-site specific truck-to-train intermodal facility. The facility would be on a 10 acre site accessible to both rail lines (Burlington Northern/Santa Fe and Union Pacific). The costs are for an intermodal-only facility (no transfer station).

### Equipment Purchase & Replacement Costs

Initial costs for equipment at the intermodal-only facility include one crane, a back-up crane, and on-site tractors (yard goats) and trailers for moving containers around the intermodal site. Total equipment costs are \$1,740,000, with the cranes accounting for \$1,500,000. Based on information from an equipment manufacturer, the analysis uses a replacement schedule of 10 years for the cranes.

### Intermodal Operating Costs

Staffing assumptions for the analysis are based on a 20 hour per day operation on weekdays and 10 hour per day operation on weekends. The extended hours of operation on weekdays would enable the County to transport containers from transfer stations during low volume traffic periods. The week-end hours allow for sending and receiving trains any day of the week.

Based on information from HDR Engineering Inc., the analysis uses the following staffing assumptions:

<u>Position</u>	<u>King Co. classification</u>	<u>M-F, Day shift</u>	<u>Night &amp; weekend shifts</u>
Crane operator	Equip. operator	1	1
Driver	Tsfr. station oper.	3	2
Scale operator	Scale operator	1	1

Using the assumed staffing levels, average annual operating costs for the intermodal facility are as follows:

Labor & benefits	\$1,080,000
Equip. maintenance & fuel	187,000
Facility maint. & utilities	<u>58,000</u>
Total	\$1,325,000

#### **Technical Note: Calculation of Levelized Cost per Ton**

Table 1 presents the methodology used to compute the levelized cost for the intermodal facility. The first step is computation of the total present value the facility's capital and operating costs. The analysis uses a real discount rate of 3 percent, which is consistent with public sector interest rates on invested funds or long term debt. The second step is a computation of total tons processed at the facility, which is also discounted to provide for a consistent comparison with the present value analysis. Discounted costs (\$44.3 million) can then be divided by tonnage (18.4 million) for a levelized cost of \$2.41 per ton.

